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The deaths were announced of Mr. Francis A. Wolgamuth, a member, and of Dr. Robert W. Gibbes, of Columbia, S. C., correspondent. Also that of Mr. Robert Kennicott, correspondent, which occurred near Behring's Straits.

November 13th.

The President, DR. HAYS, in the Chair.

Thirty-five members present.

The following was offered for publication: "Description of the Hot Springs of Soda Creek, &c." By E. L. Berthoud.

Mr. Isaac Lea read the following letter:

New Garden, 5th of 9th mo., 1866.

ISAAC LEA.

*Dear Friend*,—As science is the accumulation of facts, and the legitimate inductions derived from them, I offer no further apology for this intrusion.

Our *Helicidae* and other land shells generally pass the day in damp secluded places, among grass, under logs and fallen leaves, and even buried beneath the surface of the earth in dry weather, and are consequently difficult to find. From these retreats they sally forth during the night, enlivened by the falling dew—or still more by a shower of rain—in quest of food and pleasure. But here they are screened from observation by the darkness of the night.

Knowing their habits, and having often found them under boards or other dejected matter, it occurred to me several years ago to make this knowledge available in collecting such shells. My success has been most gratifying to myself—may it not prove equally so to others? The plan which I adopted is this: On a summer evening, after rain, I lay a *wet board* on the *wet grass* anywhere in my yard, lawn, or pasture, and on the following morning find the shells adhering to the under surface. In this way I have at various times obtained the following species in greater or less abundance:—

Succinea avara,	Vallonia minuta,
Hyalina indentata,	Bulimus marginatus,
arborea,	Leucocheila contracta,
Gastrodonta suppressa,	corticaria,
Strobila labyrinthica,	pentodon,
Anguispira alternata,	Isthmia ovata,
Patula striatella,	gouldii,
Helicodiscus lineata,	milium,
Pseudohyalina minuscula,	armifera.

Only a week ago, on removing a small log from my pasture, where it had lain some months, I accidentally detected a few shells of *Isthmia milium*, hitherto unnoticed in this vicinity. The next evening, after rain, I laid three boards, each four feet long and six inches wide, upon the spot, and the next morning obtained 250 *Ist. milium*, 15 *Leuc. pentodon*, 3 *Gast. suppressa*, and 6 *Pseud. minuscula*.

The plan here suggested is susceptible of extensive application to the purposes of the practical conchologist and travelling collector of shells, wherever they may chance to pass the night; especially so, as I have found by repeated trials that a bucket of water thrown on the grass and covered with a board affords all the conditions necessary for success about as well as a shower of rain. No cumbrous apparatus is required to load the traveller; the means will always be at hand wherever he may chance to lodge, and a few moments of the evening and morning will suffice to set his traps and bag the game.

The record of a journey across this wide continent, so conducted, would 1866.]

probably exhibit the ever-changing mycological fauna of the country in a very different light from what it now appears. New species would no doubt be discovered, and the boundaries of the old ones more accurately determined.

Within the week I have obtained 366 *I. milium* in the locality mentioned, and after considerable search have found only a single shell in the whole field, more than four yards from the spot first designated; a singular instance of the extreme localization of a species which is quite numerous at that point.

Which is respectfully submitted by thy sincere friend,

E. MICHENER.

**Dr. Hayden reported the discovery of a Mastodon tooth in the Post-pliocene drift near Fort Kearney, and another in the same formation in the bluffs opposite St. Louis.**

E. D. Cope pointed out the anomalous relations existing between the tibia and fibula in certain of the Dinosauria, as illustrated by the genus *Laelaps*. He remarked: The distal extremity of the tibia is transverse, and much compressed, and does not exhibit any of the usual appearances of an articular surface, neither the reptilian condyle, nor a cotyloid cavity sufficient for an astragalus of the size necessary for an animal of such bulk. A bone, presenting a broad hour-glass-faced articular surface was discovered with the other remains, and had puzzled the anatomists who had seen it. This piece exhibits, along its whole posterior aspect, two faces, which form a reëntrant angle for a fixed articulation: this is found to have been applied to the extremity of the tibia, exactly, and to have been fixed by strong articular ligaments. The medially constricted condyle presenting forwards and a little downwards exhibits so little analogy with the artragalus, as to suggest other interpretations, and, after a careful examination, it seems evidently the distal extremity of the fibula. This element furnishes a small articular surface at the knee, and fitting the tibia by the concavity of its inner face, becomes greatly attenuated at its distal third, where it is, in consequence of an obliquity of its direction, applied to the anterior face of the former bone. It then spreads into a plate extending to the inner margin of the tibia, while the solid shank is continued along the outer margin, and both terminate in the massive condyle which embraces the whole extremity of the tibia, like an epiphysis.

One other example only of this structure is known in the Vertebrata, of which I only find mention in Cuvier, *Ossements Fossiles* x., p. 204, tab. 249, fig. 34-5. This author studied the distal extremity of a tibia with applied fibular condyle, from Honfleur, which he was not able to assign to any known species or genus, but which he, with usual sagacity, includes in the chapter devoted to *Megalosaurus*.

He however regarded the face of the tibia receiving the condyle-bearing bone as the inner, instead of the anterior, stating that the tibia is laterally instead of antero-posteriorly compressed, so anomalous is this structure among vertebrates. He regarded the bone as the astragalus, and did not perceive any connection between its ascending apophysis and a fibula, partly because a fibula with distinct distal articulation was received with the same bones.

The fibular condyle possesses an articular facet on its exterior extremity, (anterior, Cuvier), probably adapted to a corresponding face of a calcaneum. Its plane is transverse and does not cover the whole extremity, the anterior margin and a knob on the antero-superior part of the extremity projecting beyond it. Exterior to the middle of the upper margin of this piece, and at the internal base of the ascending apophysis, it is perforate, as is the cavity above the condyles of the humerus in the higher apes, and may have received a similar coronoid process of an astragalus.

As compared with the species examined by Cuvier, this fibular condyle has a less elevated form; in Cuvier's specimen the ascending apophysis was flatter, broader and directed toward the calcaneal facet instead of from it; it lacked

[Nov.

the submedian perforation. Its tibial face appears to have been rounded, not angulate. The tibia presented an ascending ridge, to the face of which the ascending apophysis was applied; in the *Laelaps aquilunguis* there is no ridge, the apophysis reposing in a slight concavity. This apophysis, like the slender portion of the fibula, is composed of dense bone.

Cuvier describes at the same time a bone of which he says, "il ne serait pas impossible que l'os (fig. 39) fut la tete supérieur du péroné du pied que je viens de decrire." This piece has a shank compressed at right angles to the direction of its head, a form so unlike the fibulæ of known Dinosauria, including *Megalosaurus* and *Laelaps*, as to render its pertinence to the animal possessing the forementioned tibia, to say the least, very doubtful.

The direction of the condyle indicates the articulation of the tarsal elements to have been at a considerable angle with the shank of the leg, and that the animal was entirely plantigrade, and was unable to extend the foot in line with the lower leg. The animal's weight was no doubt shared by another tarsal bone, besides the astragalus, owing to the anterior position of the former.

In most known Dinosauria the relations of tibia and fibula are similar to those in the modern Lacertilia. It would appear then that this class existed under two ordinal modifications; the first, including *Scelidosaurus* Ow., *Hylaeosaurus* Mant., *Iguanodon* Mant., and *Hadrosaurus* Leidy, may be called the *ΟΡΤΗΡΟΔΑ*; the second including *Laelaps* Cope, and probably *Megalosaurus* Buckl., may be termed the *ΓΟΝΙΟΡΟΔΑ*.

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*November 20th.*

The President, DR. HAYS, in the Chair.

Thirty-seven members present.

The following was offered for publication: "Descriptions of some new species of Diurnal Lepidoptera." By Tryon Reakirt.

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*November 27th.*

The President, DR. HAYS, in the Chair.

Forty-two members present.

On favorable report of the Committees the following were ordered to be published:

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**Fifth Contribution to the HERPETOLOGY of Tropical America.**

BY E. D. COPE.

The following species, previously unknown to the scientific system, are selected from the collections made at different points in Mexico by the esteemed correspondents of the Smithsonian Institution, Drs. Arthur Schott, Francis Sumichrast, Berendt, and Major.

**OPHIDIA.**

*Himantodes tenuissimus* m. sp. nov.

Vertebral series of scales small, like the rest, altogether in seventeen rows. Head broad, very obtuse, prenasals approaching each other; loreal subquadrate; preorbitals 2 or 1, postorbitals narrow, two. Superior labials, eighth, fourth and fifth, sometimes third in orbit. Frontal anterior suture longer than lateral, which converge behind; length of shield three-fourths common suture of parietals; temporals 1 or 2—3.

1866.]